ARCADIS
Infrastructure, environment, facilities

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James Saric
Remedial Project Manager
USEPA Region 5
77 West Jackson Boulevard
Mail Code: SR-6J
Chicago, IL 60604-3507

Mike Ribordy
On-Scene Coordinator
USEPA Region 5
77 West Jackson Boulevard
Mail Code: SE-5J
Chicago, IL 60604-3507

INDUSTRIAL

Subject:
Multi-Area Health and Safety Plan Addendum 4
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site

Date:
May 7, 2008

Contact:
Michael J. Erickson

Phone:
810.225.1924

Email:
michael.erickson@arcadis-us.com

Our ref:
B0064524 and B0064530

Dear Mr. Saric and Mr. Ribordy:

On behalf of the Kalamazoo River Study Group (KRSG), please find enclosed Addendum 4 to the Multi-Area Health and Safety Plan (HSP) (Rev. 1).

Sincerely,

ARCADIS

Michael J. Erickson, P.E.
Associate Vice President

Enclosure

Copies:
Paul Bucholtz
Mark E. Tapp, Millennium Holdings, LLC
David Guier, Millennium Holdings, LLC
Mark P. Brown, Ph.D., Georgia-Pacific Corporation
Chase Fortenberry, P.G., Georgia-Pacific Corporation
Stephen Garbaciak Jr., P.E., ARCADIS
Matthew Bowman, ARCADIS

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Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site

Multi-Area Health and Safety Plan Addendum 4: Diving Operations at Plainwell Dam Project

Kalamazoo River Study Group

April 2008

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Imagine the result

Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

Supplemental Remedial Investigations/ Feasibility Studies

CERCLA Docket No. V-W-07-C-864

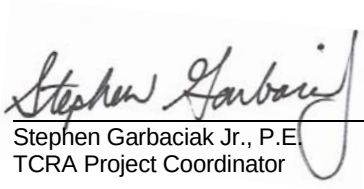
Multi-Area Health and Safety Plan: Addendum 4, Diving Operations at Plainwell Dam Project

Kalamazoo River Study Group

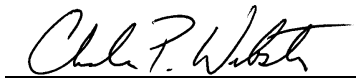
April 2008

ARCADIS

Michael J. Erickson, P.E.
SRI/FS Project Coordinator



Stephen Garbaciak Jr., P.E.
TCRA Project Coordinator



Charles P. Webster, CSP
Health and Safety Manager

Multi-Area Health and Safety Plan: Addendum 4, Diving Operations at Plainwell Dam Project

Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

Supplemental Remedial Investigations/Feasibility Studies

Prepared for:
Kalamazoo River Study Group

Prepared by:
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Our Ref.:
B0064524.00500

Date:
April 21, 2008

Table of Contents

Attachments

Purpose: Locate two underground gas lines in the Kalamazoo River

1. Dive Plan

The work will be conducted from April 22 – April 23, 2008 by King Co. (King). King has prepared a Dive Plan that covers the proposed work. The plan specifies the required training, experience, equipment, and procedures necessary to safely complete the planned work. King is responsible for the safe conduct of dive activities and compliance with the Dive Plan.

Dives will be conducted from a workboat or a steel platform. Maximum water depth is 10 feet. All dives are no-decompression; work will be performed using SCUBA. At 500 pounds per square (psi) divers will terminate work and surface. Currents may reach 3.0 feet per second (fps). King estimates that two dives will be completed per location. All divers will monitor depth and time with dive computers. A tender will be available with fully dressed safety diver. Weighted line (ends and center) will be used to provide the divers with guideline for support. The divers may elect to tether to guideline based on their assessment of conditions. The divers will use a magnetometer to locate pipeline and will mark with weighted buoys (See Attachment 1, King Co. Dive Plan).

2. Personal Protective and Support Equipment

2.1 Commercial Divers

The decision to use neoprene wetsuits, neoprene or vulcanized rubber drysuits and any associated undergarments will vary depending upon water temperature, comfort level, and/or contact with known concentrations of contaminants and will be at the discretion of the subcontracting commercial diver. Diving hats (Kirby-Morgan models or similar), gloves, and boots will be worn at all times unless conditions warrant SCUBA. King will supply their own personal protective equipment (PPE) and be responsible for the safe operation, inspection, and certification (if required) of all equipment. Communication between diver and surface (although standard with hats), is strongly encouraged for all other operations where visibility with the diver (or divers) is restricted, or where other hazardous conditions are present.

Ultimately, the decision to use protective equipment that is appropriate for the diving hazards that are present at the site is at the discretion of King Co.

2.2 Diver Support Staff (Tender or Operator)

Level D with a United States Coast Guard (USCG)-approved Type I or Type II Personal Floatation Device (PFD) must be worn for all diver support staff. When water temperatures drop below 50°F, USCG-approved insulated exposure suits (i.e., Mustang suit, survival suit) must be worn. Prior to and after each use, the PFD must be inspected for defects that would alter strength and/or buoyancy. PPE upgrades, depending upon the specific activity, may include: safety glasses or goggles, ANSI approved steel-toed safety shoes, hard hat, hearing protection (based on task), and gloves (type dependent on job-specific requirements).

3. ARCADIS's Role in Commercial Diving Operations

ARCADIS field staff that are acting as Task Leaders or field support for commercial diving operations, must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g. site managers, inspectors, clients, subcontractors, etc.). A tailgate safety meeting with the commercial diving firm must be performed and the topics of the meeting documented in field notebooks. A float plan will be filled out and posted in a common work place (i.e., field trailer) for all water vessels used to support diving operations. Contact numbers or monitored marine channel frequencies must be posted on the float plan. Weather conditions (heat, cold, rain, and lightning) must also be considered and plans for rapid demobilization from the water body discussed with all members of the field crew and subcontracting diving firm at the tailgate safety meeting.

ARCADIS's role in commercial diving operations is to coordinate with the commercial dive organization to support them in performing the scope of work. It is ARCADIS's job to inform the commercial dive team supervisor about the potential hazards and risks associated with the site although these hazards or risks may, or may not be, diving related. ***ARCADIS cannot identify potential hazards that are specifically related to commercial diving operations or recommend that changes be made to any diving operation procedure****; that is the role of the commercial dive team supervisor. However, ARCADIS will participate in discussions with the commercial dive team and document any equipment or procedural changes that are made towards continually improving site safety.*

ARCADIS

Attachment 1

King Co. Dive Plan

DIVE PLAN AND EMERGENCY PLAN

Week of April 21, 2008
Plainwell Dam Project
The King Co., Inc.
ARCADIS – BBL

Project Manager – Dive Coordinator:
David Herweyer, P.E., The King Co., Inc. (616) 836-6551
Coordinate all aspects of dive. Main POC for operations and safety.

Dive Team Members:
Rich Klaynik – Superintendent (616) 836-1056
Main contact located on shore/on work platform.

Jim Box – Workboat operator, Dive Tender 2

Scott Barnes – Lead Diver 1
Responsible for operations/coordination of divers and underwater activities. Primary safety instructor for dive activities.

Adam Czarnopys – Diver 2
Back-up diver/tender

Scope of Work:
The primary purpose of the dive is to locate two underground steel gas lines located under the Kalamazoo River. While the general location of the utility lines are known, the intent to the accurately locate the horizontal position of the lines. An underwater, hand-held magnetometer will be used to locate the underground utilities.

Area of Operations:
Kalamazoo River, Upstream of Plainwell Dam
Diving operations are scheduled from April 22 – April 23, 2008, dependent upon weather and river conditions.

Dive Plan:
Dives will be conducted from a King Co. steel workboat/platform and from the west shoreline. The maximum water depth in the river is anticipated to be 10-feet. All dives will be no-decompression dives conducted within U.S. Navy Dive Charts. Due to expected high currents and difficult river conditions, divers will switch out after an air tank reaches 500 psi. Divers will terminate the dive and begin to surface when tank pressure reach 500 psi. Two dives are expected for each utility locate. All divers will monitor depth and time with dive computers. Tender 1 and Diver 2 will be located either on shore or on the workboat to assist the diver located in the water. Communication equipment will be available on-site in the event that it is required.

The river conditions are expected to be difficult with high currents approaching 3 fps. A rope with weights at either end and in the middle will be deployed to assist the diver in crossing the river and locating the utility. The diver will mark the utility with weighted buoys at 50-foot intervals. The diver will elect whether it is appropriate to be tethered to the weighted line.

Anticipated Hazards:
Adverse weather conditions and/or currents.
River traffic

Emergency Procedures:
Prior to diving operations, all dive personnel will conduct a pre-dive safety meeting to discuss conditions, the work plan, emergency procedures and other information.
Each diver, tender and boat operator will be familiar with these procedures. In the event that conditions do not permit the safe performance of the work plan, the dive will be terminated and re-scheduled when conditions permit.

EMERGENCY ASSISTANCE
King Co. Workboat

Emergency Telephone Numbers

Divers Alert Network (DAN)
919.684.8111

IDENTIFY AS A SCUBA DIVING EMERGENY

In the event of an EMERGECY the King Co. workboat will transport the diver to shore where the severity of the condition will be evaluated.

(a) Evaluate medical problem;
(b) Decide on transportation to medical facility either land, sea or air.
Medical Facilities:

Plainwell – Borgess PIPP Hospital
411 Naomi St.
Plainwell, MI 49080
(269) 685-0700

Hyperbaric Chamber Location
Bronson Hospital – Kalamazoo
(616) 341-7654

DIVE SAFETY AND PLANNING

The Dive Safety and Planning Pre-Dive and Post-Dive Checklists are to be completed by the assigned Dive Coordinator prior to and following dive operations. Each item is to be reviewed and discussed. All personnel must be present and initial each page.

PRE-DIVE CHECKLIST

1. Mission Safety
   - Dive operations are planned in accordance with OSHA/NOAA Diving Regulations.
   - Safety of the dive team and personnel is of utmost importance.
   - An Experienced Dive Coordinator is in charge of the diving operations.
   - All divers are on active dive status with the ADC.
   - Conduct a pre-dive briefing. Dive mission, objectives and goals are defined, reviewed and understood by the dive team and support personnel.
   - The Dive Plan is posted, coordinated and reviewed (i.e., chamber availability, evacuation route, etc.), and all personnel are informed of their duties.

2. Evaluate and Prepare for Potential Hazards
   - Identify dive, site entry procedures and exit access point(s).
   - Define depth and bottom time limits for the planned dive.
   - Define next deeper depth and next longer bottom time limits in case planned limits are exceeded.
   - Evaluate and discuss potential for entrapment, entanglement, or other physical or mechanical hazards.
   - Evaluate and discuss potential for bottom obstructions or dangerous bottom conditions.
   - Evaluate and discuss potential for encountering dangerous marine life.
   - Evaluate and discuss potential for contamination or exposure to pollution (i.e., petroleum products, biological or chemical hazards).
   - Divers are outfitted in proper exposure equipment for environmental or other conditions.
   - Evaluate and discuss surface and subsurface conditions and potential for strong current, low visibility, cold water, thermo clines, surge, swell, fog, etc.
   - Evaluate and discuss local marine traffic hazards (notify vessel traffic systems about diving operations).
   - Complete Dive Safe Ship Operations (NOAA Form 64-3), if applicable.
   - Ensure that Material Safety Data Sheets (MSDS) are available and reviewed prior to use of any hazardous chemicals.

3. Diving and Support Personnel
   - Ensure that all divers are authorized to perform tasks assigned according to their experience and certification levels (i.e., Working Diver, Scientific Diver, Trainee Diver, or Observational Diver).
   - Ensure that dive physicals are available for each diver in case of an emergency.
   - Ensure that all divers are qualified, have received proper training and have appropriate experience, to complete assigned underwater tasks safely.
   - Verify that all divers are physically and mentally fit to conduct the diving required.
   - Ensure that all divers are properly hydrated and rested before the diving operations.
   - Support personnel understand all diver hand signals, emergency recall signals and can offer immediate assistance in case of an emergency.
   - Thoroughly evaluate repetitive dive designations if a previous dive was made within 12 hours.
   - Brief the dive team and support personnel.

4. Equipment
   - "Dive platform is stable, seaworthy and outfitted with appropriate safety equipment.
   - All support equipment (i.e., boats, compressor, oxygen kit, underwater tools, etc.) is operated by trained and competent personnel.
   - All tools used are appropriate for the task.
   - All dive techniques to be used are safe and appropriate and authorized.
   - All required dive gear is on-hand, inspected and found fully functional prior to the divers departing for the dive.
   - All emergency and support equipment are available, inspected and found fully functional prior to commencing dive operations:
   - Drinking water is available.
   - Means of communication (i.e., cellular telephone, landline telephone, NAVSAT etc.).
   - Complete diving first aid kit, first aid handbook, oxygen resuscitator and backboard.
   - Divemaster kit on site, including a complete set of 1999 U.S. Navy Dive Tables, 1999 NOAA Nitrox Tables and other require dive tables.
   - Rigid replicas of appropriate dive flags (sport and/or alpha) are prominently displayed during diving operations.

POST-DIVE CHECKLIST

- Notify watch on the vessel's bridge when operations are completed.
- Strike the dive flags.
- Dive team buddies have remained together for a minimum of 30 minutes after each dive and have monitored each other's condition during that time.
- Recover and stow all support equipment.
- Ensure that all personal dive equipment and support equipment is thoroughly cleaned and properly stowed. Perform required preventative maintenance.
- Tag all damaged or malfunctioning equipment and remove from use.
- Refill all scuba cylinders.
- Log all dives and topside activities.
- If necessary, discuss procedures for flying after diving.
- Provide contact numbers for nearest chamber, UDS and Divemaster.
- Monitor divers for signs and symptoms of pressure-related illnesses or injuries for a minimum of 2 hours after each dive.
- Conduct a dive debrief and critique operations.
- File a final dive report.

The Dive Plan will be followed and executed as described above. The lead diver onsite will conduct a Site-specific safety analysis to ensure proper steps have been taken to minimize all hazards. This may require a modification to the original Dive Plan to ensure the safety of all affected personnel.